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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,203	09/18/2003	Foster D. Hinshaw	3336.1008-001	7168

21005 7590 11/14/2007

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EXAMINER	
LOVEL, KIMBERLY M	
ART UNIT	**PAPER NUMBER**
2167	

MAIL DATE	DELIVERY MODE
11/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/667,203	HINSHAW ET AL.	
	Examiner	Art Unit	
	Kimberly Lovel	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to the Amendment filed 20 August 2007.

2. Claims 1-14 are currently pending. In the Amendment filed 20 August 2007, claims 1-3, 7, 8, 10, 13 and 14 were amended. This action is made Non-Final.

3. The rejections of claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No 6,434,649 to Baker et al in view of US PGPub 2005/0021813 to Kovacevic et al have been withdrawn as necessitated by applicant's arguments.

Claim Objections

4. The objection to claim 1 has been withdrawn as necessitated by amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No 6,434,649 to Baker et al (hereafter Baker et al) in view of US PGPub 2005/0021813 to Kovacevic et al (hereafter Kovacevic) in view of US Patent No 6,732,084 to Kabra et al (hereafter Kabra).

Referring to claim 1, Baker et al disclose a Data Streamer. In particular, Baker et al disclose a Programmable Streaming Data Processor (PSDP) which is arranged to perform primitive functions directly on data received from a streaming data interface (see abstract; column 1, lines 48-58; and Fig 1A, item 100 – the multimedia processor is considered to represent the programmable streaming data processor since it comprises of the same components and is a data processor for streaming which can be programmed), PSDP performing initial processing on a set of data comprising:

a streaming data interface, for receiving data from a streaming data source (see column 5, lines 59-68 and Fig 1, items 122 and 132);

a streaming interface First In First Out (FIFO) [first-in-first-out buffer], arranged for temporarily storing streaming data from the streaming data interface (see column 17, lines 25-45; column 18, lines 13-22; and Fig 7, item 716 – the interface uses a first-in-first-out buffer; according to the 5th Edition of Microsoft's Computer Dictionary, the definition of a buffer states "a region of memory reserved for use as an intermediate repository in which data is temporarily held while waiting to be transferred between two locations or devices"); and

an output First In First Out (FIFO) device, for forming tuples and temporarily storing them prior to conditionally forwarding them to the Job Processing Unit (see column 30, lines 22-32).

Baker et al disclose a Programmable Streaming Data Processor (PSDP) which is arranged to perform primitive functions directly on data received from a

streaming data interface, however, Baker et al fails to explicitly teach the further limitations of the data engine and the tuple generator.

Kovacevic discloses parsing packets of information (see abstract), including the further limitations of a data engine, arranged to receive output data [packet] from the streaming interface FIFO, the data engine for determining field boundaries therein [parsing to determine header and fields], and for processing fields to select one or more fields to be output tuples.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to Kovacevic's method of manipulating data as a subcomponent to Baker et al's Data Streamer. One would have been motivated to do so to in order to improve data movement (Baker et al: see column 1, lines 49-67).

However, the combination of Baker and Kovacevic (hereafter Baker/Kovacevic) fails to explicitly disclose the further limitations of the data engine also containing logic to determine whether an output tuple is to be selected for further processing by additional processing Job Processing Units; a tuple generator for assembling fields into the output tuple, and if the use or lose decision value indicates that such the output tuple is to be discarded, for preventing such a tuple from being transferred from the output FIFO to the memory of the JPU; and an output First In First Out (FIFO) device, for forming tuples and temporarily storing them prior to conditionally forwarding them to the Job Processing Unit.

Kabra et al discloses parallel execution of a SQL query (see abstract), including the further limitations of the data engine also containing logic to determine whether an output tuple is to be selected for further processing by additional processing Job Processing Units [endpoints are set up so that each operator in the pipeline knows where to send the results] (see column 10, lines 18-45); a tuple generator for assembling fields into the output tuple, and if the use or lose decision value indicates that such the output tuple is to be discarded, for preventing such a tuple from being transferred from the output FIFO to the memory of the JPU (see column 10, line 66 – column 11, line 17); and an output First In First Out (FIFO) device [Query coordinator], for forming tuples [results/output] and temporarily storing them prior to conditionally forwarding them to the Job Processing Unit (see column 10, lines 52-58).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the features provided by the data engine of Kabra with the data engine disclosed by Baker/Kovacevic. One would have been motivated to do so in order to increase the efficiency of the processor by adequately monitoring tuple creation and processing (Kabra: see column 1, lines 22-34).

Referring to claim 2, the combination of Baker/Kovacevic and Kabra (hereafter Baker/Kovacevic/Kabra) discloses an apparatus as in claim 1 wherein the use or lose value indicates a result from logic processing of fields read from the streaming data interface (Baker et al: see column 17, line 52 – column 18, line 12).

Referring to claim 3, Baker/Kovacevic/Kabra discloses an apparatus as in claim 1 wherein the use or lose decision value indicates a result from Transaction Identifier (TID) processing (Baker et al: see column 29, lines 63-65).

Referring to claim 4, Baker/Kovacevic/Kabra discloses an apparatus as in claim 3 wherein the TID processing and data engine logic execute in parallel (Baker et al: see column 5, lines 11-15).

Referring to claim 5, Baker/Kovacevic/Kabra discloses an apparatus as in claim 1 wherein the output tuple is greater in length than an expected predetermined size, and the use or lose decision value is then used to set an overflow field in the output tuple (Baker et al: see column 18, lines 56-64).

Referring to claim 6, Baker/Kovacevic/Kabra discloses an apparatus as in claim 5 wherein the use or lose decision value is not asserted when a buffer local to the programmable data streaming processor is full; and means for appending an overflow filter bit to a tuple that indicates a transfer of a tuple that should be ignored (Baker et al: see column 18, lines 56-64).

Referring to claim 7, Baker/Kovacevic/Kabra discloses an apparatus as in claim 1 additionally comprising: a Direct Memory Access (DMA) interface, coupled to the output FIFO, to provide direct access to a memory in the JPU (Baker et al: see column 6, lines 24-25 and column 19, lines 15-25).

Referring to claim 8, Baker/Kovacevic/Kabra discloses an apparatus as in claim 1 wherein the use or lose value is used to reset the output FIFO write pointer so any prior fields in the present tuple are discarded (Baker et al: see

column 12, lines 18-34 – after the data is written, it is considered to be removed from the temporary storage of the buffer, therefore being deleted).

Referring to claim 9, Baker/Kovacevic/Kabra discloses an apparatus as in claim 1 wherein the overflow filter bit is inserted in a length field appended to record fragments (Baker et al: see column 34, lines 56-62).

Referring to claim 10, Baker/Kovacevic/Kabra discloses an apparatus as in claim 1 wherein an invalid field is appended to a tuple to indicate the results of TID processing (Baker et al: see column 12, line 62 – column 13, line 16).

Referring to claim 11, Baker/Kovacevic/Kabra discloses an apparatus as in claim 10 wherein the invalid field indicates that the TID mode marks return tuple (Baker et al: see column 12, line 62 – column 13, line 16).

Referring to claim 12, Baker/Kovacevic/Kabra discloses an apparatus as in claim 10 wherein the invalid field indicates that the tuple should not have been returned but the output FIFO overflowed (Baker et al: see column 31, lines 10-22 and column 34, lines 56-62).

Referring to claim 13, Baker/Kovacevic/Kabra discloses an apparatus as in claim 1 further comprising: a register reflecting the final PSDP status which is read by a Central Processing Unit (CPU) to identify whether any overflow or TID status bits are set in any of the tuples (Baker et al: see column 29, line 63 – column 30, line 21).

Referring to claim 14, Baker/Kovacevic/Kabra discloses an apparatus as in claim 1 wherein the use or lose decision value represents DeMorgan's Law reduction of multiple instructions (Baker et al: see column 5, lines 25-34).

Response to Arguments

6. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Lovel whose telephone number is (571) 272-2750. The examiner can normally be reached on 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kimberly Lovel
Examiner
Art Unit 2167

8 November 2007
kml

Primary Examiner
Art Unit 2167